Guidance for Maryland Composting Facilities

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Contents

I. Introduction

Composting facilities may be subject to several Maryland Department of the Environment (MDE) and Maryland Department of Agriculture (MDA) regulations. This guidance document is intended to assist prospective composters in identifying applicable requirements across MDE and MDA regulations. This document is intended to include the requirements most likely to apply to the operation of a composting facility; it is not intended to include every activity that may be co-located at a composting facility or other approvals that may be required for the construction and operation of a facility (e.g. erosion and sediment control plan approval). Guidance is for informational purposes only. Prospective composters should consult the law and regulations for specific requirements. Additional information and contacts for further assistance can be found on MDE's Composting Website.

The scope of this guidance is limited to facilities that conduct "composting," defined as the controlled aerobic biological decomposition of organic waste material. Shredding or grinding material into mulch without controlled decomposition is not composting, nor is anaerobic digestion.

Table 1 lists the MDE and MDA requirements that may be applicable to composting facilities. The permit or approval name links to the appropriate page of MDE's Permitting Guide or MDA website, while the regulation links to the appropriate chapter of COMAR online. These requirements are discussed in further detail below.

Table 1: Potential Requirements Overview

Subject/Activity	Permit/Approval	Regulations
MDE – Solid Waste and Recycling		
Composting Facilities	Composting Facility Permit	COMAR 26.04.11
Solid Waste Acceptance Facilities	Refuse Disposal Permit	COMAR 26.04.07
Sewage Sludge Management	Sewage Sludge Utilization Permit	COMAR 26.04.06
Natural Wood Waste Recycling	Natural Wood Waste Recycling Facility Permit	COMAR 26.04.09
MDE – Water		
Stormwater Discharges	General Permit for Stormwater Discharges Associated with Industrial Activity	COMAR 26.08.04
Groundwater Discharges	State Groundwater Discharge Permit	COMAR 26.08.04
Surface Water Discharges	State/NPDES Surface Water Discharge Permit	COMAR 26.08.04
MDE - Air		
Sources of Air Pollution	Permit to Construct Permit to Operate	COMAR 26.11.02
MDA		
Compost Quality	Compost Registration	COMAR 15.18.04
Composting Operators	Operator Certification	COMAR 15.18.04

II. MDE – Solid Waste and Recycling

A. Does the Composting Facility Permit (CF Permit) Apply?

Solid waste and recycling-related permits are issued by MDE's Land Management Administration. Most types of composting fall within the Composting Facility Permit and composting facility regulations, discussed further in this guide. However, this section lists three types of composting activities that are addressed under separate regulatory programs.

1) Composting of *Only* Natural Wood Waste (NWW)

A facility that composts only NWW is subject to the NWW regulations and permit. The NWW Recycling Facility Permit is available as either a general or individual permit. The following facilities are exempt from the NWW permit: (1) a facility operated by a nonprofit or government organization; and (2) a single individual or business that provides recycling services solely for its own employees or for its own recyclable materials generated on its own premises. For additional information on NWW, visit MDE's Solid Waste page.

NWW vs. Yard Waste

NWW is defined as tree and natural vegetative refuse, including tree stumps, brush and limbs, root mats, logs, leaves, grass clippings, unadulterated wood wastes, and other natural vegetative materials.

Yard waste is organic plant waste derived from gardening, landscaping, and tree trimming activities, including leaves, garden waste, lawn cuttings, weeds, and prunings.

As further discussed in this guide, composting of NWW is regulated differently than composting of yard waste, so it is important to determine which of these terms best describes the material to be composted. While there is some overlap in the definitions, yard waste is primarily made up of leaves, grass, green plant material, and small branches derived from landscaping activities at homes or businesses. NWW is primarily large branches, stumps, tree trunks, roots, and wood chunks, such as from whole tree removal or landclearing. NWW is primarily high carbon, low nitrogen material. The NWW permit is for NWW only. If a facility composts both NWW and yard waste, the facility should follow the requirements for yard waste composting under the composting facility regulations and CF Permit.

2) Composting of Sewage Sludge(Biosolids)

Composting of any sewage sludge (biosolids), regardless of whether it is mixed with other materials, falls under the sewage sludge management regulations and Sewage Sludge Utilization Permit. For more information on sewage sludge management, visit MDE's Waste Diversion page.

3) Composting of Municipal Solid Waste (MSW) or Diapers

Composting of mixed MSW, which means waste that was not separated for composting at the point of generation, requires a Refuse Disposal (RD) Permit and is subject to the Solid Waste Management Regulations. Specifically, these composting facilities are considered processing facilities, which are addressed in COMAR 26.04.07.23. For additional information on solid waste requirements, see MDE's Solid Waste page.

Note About Composting At Existing Solid Waste Facilities

If composting will take place at a facility that is required to have a RD Permit for a reason other than composting (such as composting that takes place at a landfill or transfer station), the operator must choose one of the following options:

- Apply for a modification to the RD Permit to include composting, if not already included.

In this case, the facility is *not* required to also obtain a CF Permit and is not subject to the composting facility regulations in COMAR 26.04.11.

- Obtain a CF Permit. In this case, the permits operate separately and the CF Permit does not impact the existing RDP or its expiration date.

The choice between the two options is generally left up to the operator. Conditions similar to those in the composting regulations will be included in a modified RD Permit that covers composting. A general CFP may in some cases be faster to obtain than a modification to the existing RD Permit, which will require reissuance of the individual permit, and for landfills and incinerators, will include public participation.

For facilities in existence as of the date the regulations became effective and that submitted timely Existing Facility Notifications, the deadline to either obtain a CF Permit or a modification to the RD Permit is **January 1, 2017**. All others must do so prior to commencing composting operations.

B. Feedstock Types

The composting facility regulations divide feedstocks – the raw materials used for composting—into 3 "types," grouped roughly by environmental risk, plus natural wood waste (NWW).

Table 2 shows the materials that fall under each feedstock type. As discussed under § II. A, composting of NWW and Type 3 materials is addressed through other permitting schemes. If the material a facility proposes to compost is not explicitly mentioned under one of these types, the Department will determine the appropriate category in which it fits based on the material's risk of hazardous substances, human pathogens, and physical contaminants, relative to the other materials in the category. (See COMAR 26.04.11.02 for more details on the feedstock types).

Table 2: Feedstock Types

NWW	Type 1	Type 2	Type 3
•Tree and other natural vegetative refuse •**(Not covered under the CFP or composting facility regulations.)**	•Yard waste	•Food scraps •Non-recyclable paper •Department approved animal manure and bedding •Department approved industrial food processing materials •Animal mortalities •Compostable products	•Sewage Sludge or Biosolids •Used diapers •Mixed municipal solid waste (MSW) •**(Not covered under the CFP or composting facility regulations.)**

C. Facility Tiers

Composting facilities are divided into "tiers," based on the feedstock types. Tier 2 is further divided into Tier 2-Large and Tier 2-Small, based on the amount of finished compost the facility produces per year. Table 3 shows the feedstock types included in each facility tier. **All Tier 1, Tier 2 – Small, and Tier 2 – Large facilities require a CF Permit unless covered under one of the exemptions laid out in the composting facility regulations at COMAR 26.04.11.05 and .06.**

Table 3: Facility Tiers

NWW Recycling Facility	Tier 1	Tier 2 - Small	Tier 2 - Large	Tier 3
•Composts *only* natural wood waste. •**(Not covered under the CFP or composting facility regulations.)**	•Composts only Type 1 feedstocks.	•Composts only Type 1 and Type 2 feedstocks. •Produces ≤ 10,000 cubic yards of compost per year.	•Composts only Type 1 and Type 2 feedstocks •Produces > 10,000 cubic yards of compost per year.	•Composts Type 3 feedstocks (regardless of whether other feedstock types are also composted) •**(Not covered under the CFP or composting facility regulations.)**

D. Exemptions from the CFP Requirement

This section discusses exemptions from the requirement to obtain a CF Permit, which are found in COMAR 26.04.11.05 and .06. Facilities exempt from the CF Permit **are still** subject to the general performance standards for composting facilities located in COMAR 26.04.11.04. They are not subject to the permit requirement or to the other provisions in the composting facility regulations governing design, construction, operation, recordkeeping, and reporting (COMAR 26.04.11.08 -.15). The regulations list exemptions applicable to on-farm composting and to composting at places other than farms.

1) Exemptions for composting **not** located at a farm

a. Backyard Composting. A CF Permit is not required for composting conducted at a residence, if all the feedstocks are generated on site and all the resulting compost is used on site. Backyard composting may be subject to local regulations or restrictions, so please check with your county or municipality for more information. A list of county recycling contacts can be found on MDE's website.

b. **5,000 sq ft Exemption.** A CF Permit is not required for a Tier 1 or 2 facility that uses no more than 5,000 square feet "in support of composting" and meets maximum pile height restrictions. Feedstock piles may not be taller than 9 feet and all other piles are limited to a height of 12 feet. When determining the area used in support of composting, include areas

used for feedstock receiving and preparation (such as mixing, shredding, water addition), active composting, curing, and storage (including compost, equipment, and waste). The areas do not need to be contiguous; spaces not used for any of the activities listed above may be omitted, including empty fields and roads.

c. **Animal Mortality Composting.** Composting of animal mortalities that is managed by State or local government as part of roadway or other public property maintenance activities is exempt.

2) Exemptions for **on-farm** composting

a. Exemption for On-site Feedstocks and On-site Compost Use. Composting is exempt up to any size if the facility composts only materials generated on the site (or a site controlled by the same operator) and uses all compost on site (or a site controlled by the same operator).

Example: A farmer owns Farm A and leases Farm B, located at a different site. The farmer transports crop residuals generated at Farm A to Farm B. There the crop residuals are mixed with manure generated at Farm B and composted. The resulting compost is transported back to Farm A for use. This activity is exempt, regardless of the size of the composting area.

b. **40,000 sq ft Exemption.** A CF Permit is not required for a facility that uses no more than 40,000 square feet "in support of composting" if it meets certain conditions. The facility may compost only materials generated on site (or at another farm controlled by the same operator), and yard waste, animal manure, and bedding from off site.

The facility must operate in accordance with its approved nutrient management plan, if required. The nutrient management plan requirements can be found at COMAR 15.20.07. The facility must also operate under **either** a soil conservation and water quality plan and or an agricultural waste management system plan. Whichever of these two plans the facility has, it must include information on the composting activity, including the facility components and design, schedule for storage and utilization of the materials, system maintenance, and operational procedures to ensure that the general performance standards in the regulations are met. Both types of plans can be obtained, generally free of cost, from the local Soil Conservation District in the county where the farm is located.

A farm may already have a soil conservation and water quality plan or an agricultural waste management system plan that was obtained for a reason other than compliance with the composting regulations. However, if the plan does not include information on the composting activity, it must be revised to include the information listed above.

An on-farm composting facility in existence at the time the regulations became effective that wishes to operate under the exemption has until January 1, 2017 to obtain the required plan. New on-farm composting facilities seeking to operate under the exemption must obtain the required plan prior to beginning operations.

c. **5,000 sq ft Exemption**. A CF Permit is not required for a Tier 1 or 2 facility that uses no more than 5,000 square feet "in support of composting" and meets the maximum pile height restrictions. See "5,000 sq ft Exemption" above.

d. **Emergency Exemption for Composting of Animal Mortalities**. A farm that needs to compost animal mortalities on a temporary basis due to a non-routine, catastrophic die-off does not require a CF Permit as long as the activity is approved by MDA in consultation with the Department.

*** What Qualifies as a Farm? ***

A farm is a site operated for the primary purpose of tilling, cropping, keeping, pasturing, or producing an agricultural product *other than compost*. Sites that are primarily operated to produce compost are not farms.

At sites that conduct both composting and farming, the following factors should be considered in determining the site's primary purpose:

- The revenue generated from farming activities versus the revenue generated from composting. Facilities that generate the majority of annual revenue from compost sales or feedstock tipping fees generally do not qualify as farms.
- The number of employees or amount of employee time spent on composting versus farming activities. Facilities that devote the majority of labor to conducting composting generally do not qualify as farms.
- The portion of on-site space or activity directly devoted to composting versus farming. Facilities in which most of the physical area and/or daily operations support composting generally do not qualify as farms.

Please contact the Department if you need further assistance in assessing whether a facility qualifies as a farm under the composting facility regulations.

Where Was the Feedstock "Generated"?

Two of the exemptions listed in this guide require the operator to determine where feedstocks were generated. For the purpose of the exemptions, a feedstock is generated at the place where it ceases being used for its original purpose and, unless composted, would become a waste. The following are examples:

- Animal bedding is generated at the place where it is used, regardless of whether it was originally purchased from off-site.
- Household food scraps are generated at the residence where the food was consumed.

The flow charts in Appendices A (for farms) and B (for non-farms) provide a summary of the CF Permit requirements and exemptions.

E. Design Requirements

The facility location and design requirements, which apply to facilities required to have a CF Permit, are located in COMAR 26.04.11.08. The table in Appendix C summarizes the major facility design requirements by Tier.

1) Contact Water vs. Stormwater

In the composting regulations, "contact water" is the term used for water that has contacted **raw feedstocks** or **actively composting** material. Unless the materials are protected with a low-permeability cover system, any runoff that comes from the feedstock receipt, feedstock storage and active composting areas is assumed to be contact water.

Stormwater is runoff from precipitation that has not contacted raw feedstocks or actively composting material. Water that has contacted **curing** or **finished** compost is stormwater.

Tier 1 and Tier 2 – Small facilities should minimize runoff of contact water by following the design and operational requirements of the CF Permit and CFOP and implementing best management practices in accordance with the facility's stormwater discharge permit, if required (see §III.A). However, Tier 2 – Large facilities must collect and contain contact water prior to reuse or permitted treatment and discharge. It is therefore especially important for Tier 2 – Large facilities to ensure that material placed in curing areas meets the definition of "curing" in order to avoid contaminating stormwater. Curing material must have:

- Passed the pathogen reduction requirements (processing time and temperature); and
- Decomposed and stabilized most of the readily metabolized material.

2) Methods for Minimizing Contact Water Generation

In a typical outdoor composting facility, the quantity of precipitation that falls on or runs onto feedstock storage and active composting areas will impact the quantity of contact water that is generated. As a result, the regulations require a Tier 2 – Large facility to size the containment structure to handle a 25-year, 24-hour storm event. Because large containment structures can be expensive, composters may wish to limit the quantity of contact water generated by separating precipitation and stormwater from feedstocks and actively composting materials.

The regulations allow for this by specifying that "covered" Tier 2 – Large facilities need only size containment structures for the amount of contact water generated. To be considered "covered," the facility must have a low-permeability barrier between precipitation/stormwater and the raw or active materials. This may include a synthetic cover, building, or enclosed vessel. A roof without walls also suffices, as long as there is a means of preventing run-on from entering the area sheltered by the roof, such as berms. The facility must keep the contact water separate from stormwater outside the cover – for a synthetic cover, this is most frequently accomplished by a trench or pipe under the covered piles that collects contact water, but is shielded from precipitation and stormwater runoff. Finally, operators choosing covered facility designs should ensure that raw and active materials are confined to the covered areas and kept out of uncovered pathways.

F. Pathogen Reduction

A pathogen reduction process, consisting of a minimum processing time and temperature combination, is required for Tier 1 and Tier 2 facilities. The process, known as the Process to Further Reduce Pathogens (PFRP), is widely used in the composting industry and is derived from U.S. EPA regulations on sewage sludge. The federal PFRP for composting is incorporated by reference in the regulations and states:

Using either the within-vessel composting method or the static aerated pile composting method, the temperature of the [materials being composted] is maintained at 55 degrees Celsius or higher for three days.

Using the windrow composting method, the temperature of the [materials being composted] is maintained at 55 degrees or higher for 15 days or longer. During the period when the compost is maintained at 55 degrees or higher, there shall be a minimum of five turnings of the windrow.

(40 CFR. Pt. 503 App. B, §(B)(1))

All composting facilities required to obtain a CF Permit are required to establish a plan for monitoring temperature of each windrow or pile. In most cases, one set of temperature measurements per day during the period used to meet PFRP is sufficient. The plan should specify the procedure for taking measurements, including the frequency and how the operator will select locations for temperature monitoring. The following document includes some useful recommendations on the location and number of temperature measurements and a sample log for recording temperature results: Wisconsin DNR, Temperature Monitoring at Licensed Compost Facilities, http://dnr.wi.gov/files/PDF/pubs/wa/wa1585.pdf

G. Composting Facility Operations Plan

All facilities required to obtain a CF Permit must develop, submit to the Department, and follow a composting facility operations plan (CFOP) addressing the items listed in COMAR 26.04.11.09B(1)(a). A person does not need any specific licensing or certification to write a CFOP – it can be written by the facility operator. The plan must be kept on site and reviewed annually to determine if updates are needed.

The CFOP must include a plan for preventing and responding to complaints of nuisances, such as odors. Some examples of nuisance odor prevention plans can be found on CalRecycle's Odor Impact Minimization Plan website: http://www.calrecycle.ca.gov/swfacilities/compostables/Odor/OIMP/default.htm

In addition to following its operations plan, a facility must follow the operational requirements contained in the regulations at 26.04.11.09, as well as any operational conditions in the CF Permit.

H. Recordkeeping and Reporting

COMAR 26.04.11.12 lists the information that must be recorded and reported to MDE annually by permitted composting facilities. The annual report must include at least:

- Quantities and types of feedstocks accepted and their counties of origin
- Quantities and types of compost and residues produced
- Quantities and types of compost and residues removed from the site

"Residue" refers to materials that are accepted at the facility but removed at some point during the process for disposal or recycling (e.g. non-compostable plastic bags).

1) Weight and Volume Measurements

All composting facilities must report quantities in weight (tons). Tier 2 facilities must also report volumes (cubic yards). However, any composting facility may choose to measure the quantities in either weight or

volume. The facility may then use a conversion factor to convert the measurement to weight or volume for the purpose of the annual report.

The bulk density of a sample of any material can easily be calculated using a bucket and a small scale. This only needs to be done once, unless the makeup or mixture of the material changes significantly, but you should include a statement explaining your calculations with each annual report. The bulk density (i.e. tons per cubic yard) can then be used to generate either a weight from a volume or a volume from a weight. For detailed instructions on how to measure bulk density using a 5-gallon bucket, see Washington State University, http://puyallup.wsu.edu/soilmgmt/BulkDensity.html

2) Determining the County of Origin for Feedstocks

Owners or operators of composting facilities are responsible for requesting from the hauler the county of origin for each load of organic materials brought to the site. It may be difficult to assess the exact quantity of materials from each county when a truck has made stops in multiple counties. In these cases, the composting facility may accept the hauler's best estimate of the portion of the load that came from each county. For example, if a hauler on a commercial organics route serving similarly sized businesses knows that approximately half of the stops were made in County A and half in County B, the composting facility may record 50% of the weight of the load as originating in County A and 50% in County B. Composting facilities will not be penalized for relying on information provided by haulers, but will be responsible for requesting and obtaining the information.

If a facility has a clearly posted policy of accepting only in-county material, such as a drop-off site for yard waste from county residents, the composting facility may assume all material came from within the county.

I. Obtaining a CF Permit

A composting facility required to obtain a CF Permit may opt for either a general or individual permit. Operators should review the content of the general permit to ensure that the facility is eligible and would be able to comply with its conditions. Assuming the facility is eligible for the general permit, the Table 4 shows some considerations that may factor into an operator's decision to obtain a general or individual permit.

Table 4: Characteristics of the General and Individual CF Permits

Individual Permit	General Permit
•Requires detailed application, including engineering plans and specifications. •Allows applicant to request a variance from a requirement in the regulations, if it can show the proposed practice is equally protective. •Public notice and opportunity for comment on each application, as well as distribution to various State and local agencies for review •May take more time to obtain, due to individualized review and public participation.	•Requires submission of a brief Notice of Intent (NOI) form and a copy of the CFOP. •No variances allowed. •Public notice and comment on the general permit itself, but not for each facility submitting an NOI. •May be faster than individual permit. Coverage begins when the Department acknowledges receipt of complying NOI and CFOP.

III. MDE – Water

A. Stormwater

The federal Clean Water Act requires a facility whose primary industrial activity falls within certain sectors to obtain a permit for stormwater discharges. MDE has issued a General Permit For Stormwater Discharges Associated With Industrial Activity**,** which covers multiple industries. One of the covered industries is SIC code 2875, which includes composting.

In general, most commercial composting operations that distribute compost will be required to obtain coverage under the General Permit for Stormwater Discharges Associated with Industrial Activity. If composting takes place at a facility that also has some other activities, such as composting at a farm, the facility must determine whether composting is the primary activity. Factors in this determination may include the value of revenue from each activity, the number of personnel engaged in each activity, or whether the vast majority of on-site activity is composting. Noncommercial composting operations, which either produce compost for use by the operator or give away the compost free of charge (not including bartering), are unlikely to require a permit for stormwater discharges.

Completely indoor composting facilities may file a "No Exposure Certification" in lieu of permit coverage if all industrial materials or activities are protected by a storm-resistant shelter to prevent exposure to rain, snow, snowmelt, and/or runoff.

Additional information and contacts for this permit are located on the Department's website.

B. Wastewater (Contact Water) Discharges

If a Tier 2 – Large facility will discharge the collected contact water to surface water or groundwater, a surface water discharge permit or groundwater discharge permit may be required. These permits are currently

available only as individual permits. These permits may not be required if all the contact water in is stored in an approved containment structure with sufficient freeboard and reused on raw feedstocks or active piles.

IV. MDE – Air

While the composting activity itself does not require an air permit, certain equipment that may be used at a composting facility may. A Permit to Construct (PTC) is a permit required for certain sources prior to construction or modification and applies to an individual unit or process line. Equipment powered by an internal combustion engine with at least 500 brake horsepower requires a PTC. Aeration systems, sorting systems, grinders, shredders, screeners, or drying and bagging equipment at composting facilities are examples of equipment that may require a PTC.

A Permit to Operate (PTO) is required for specific sources, which are listed in COMAR 26.11.02.13. Operators should review the sources listed in the regulation to determine if any of the listed equipment will be used at the site.

For more information, please see MDE's Permits to Construct and Operate page

Aside from permits, COMAR 26.11.06.08 prohibits operation or maintenance of a facility in a manner that creates a nuisance. COMAR 26.11.06.09 prohibits a person from causing or permitting discharge into the atmosphere of odors beyond the property in such a manner that a nuisance is created.

V. MDA Requirements

Product Registration

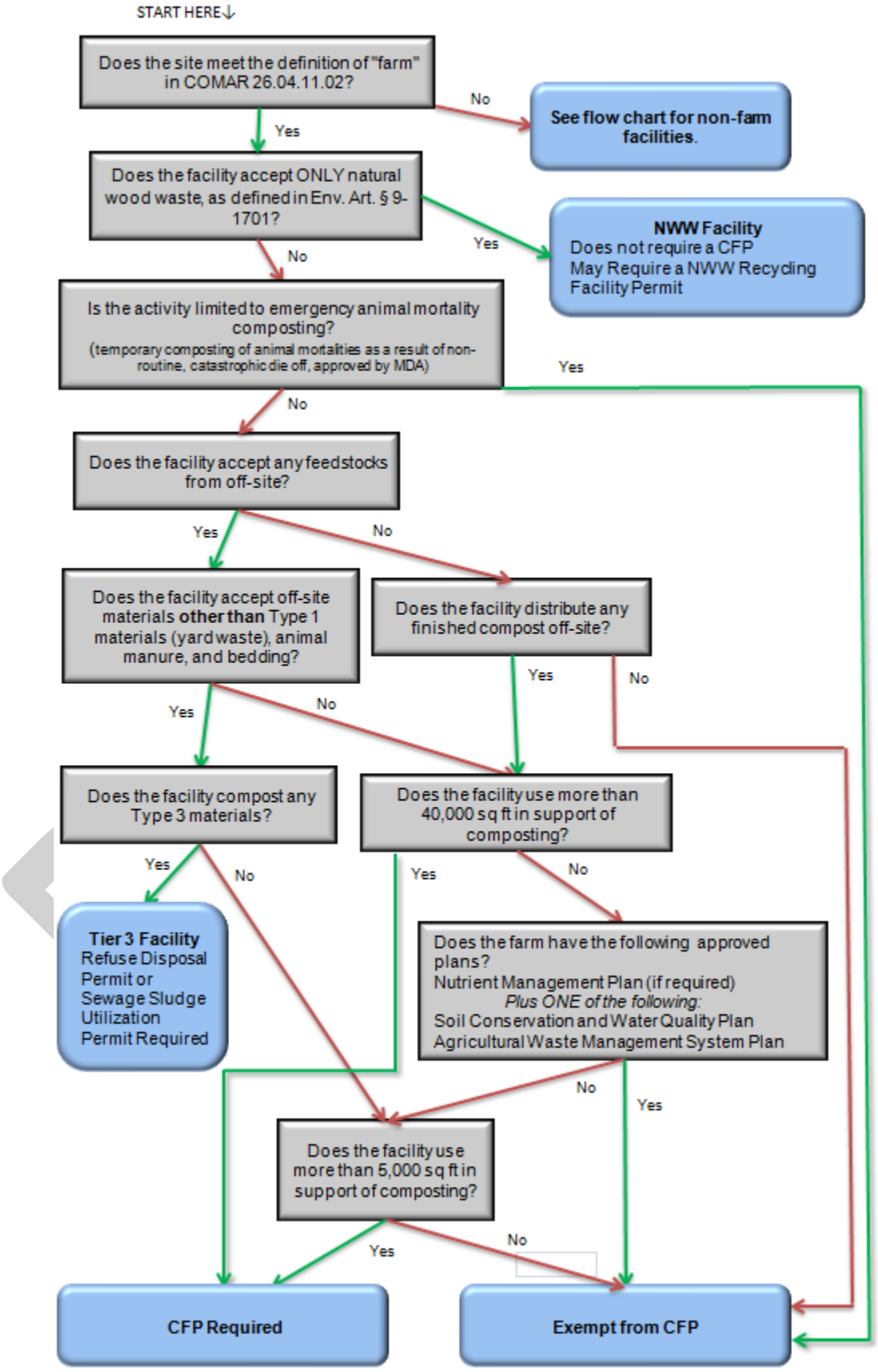
MDA regulations require registration of each brand or classification of compost before that compost can be sold or distributed in the State. Registration must be renewed annually. MDA regulations also include compost testing and classification, labeling, and recordkeeping requirements. A semiannual report on the tons of compost distributed in the State must be submitted with a 25 cent fee for each ton of compost. MDA may inspect and test compost or compostable material to ensure that it meets quality requirements.

Operator Certification

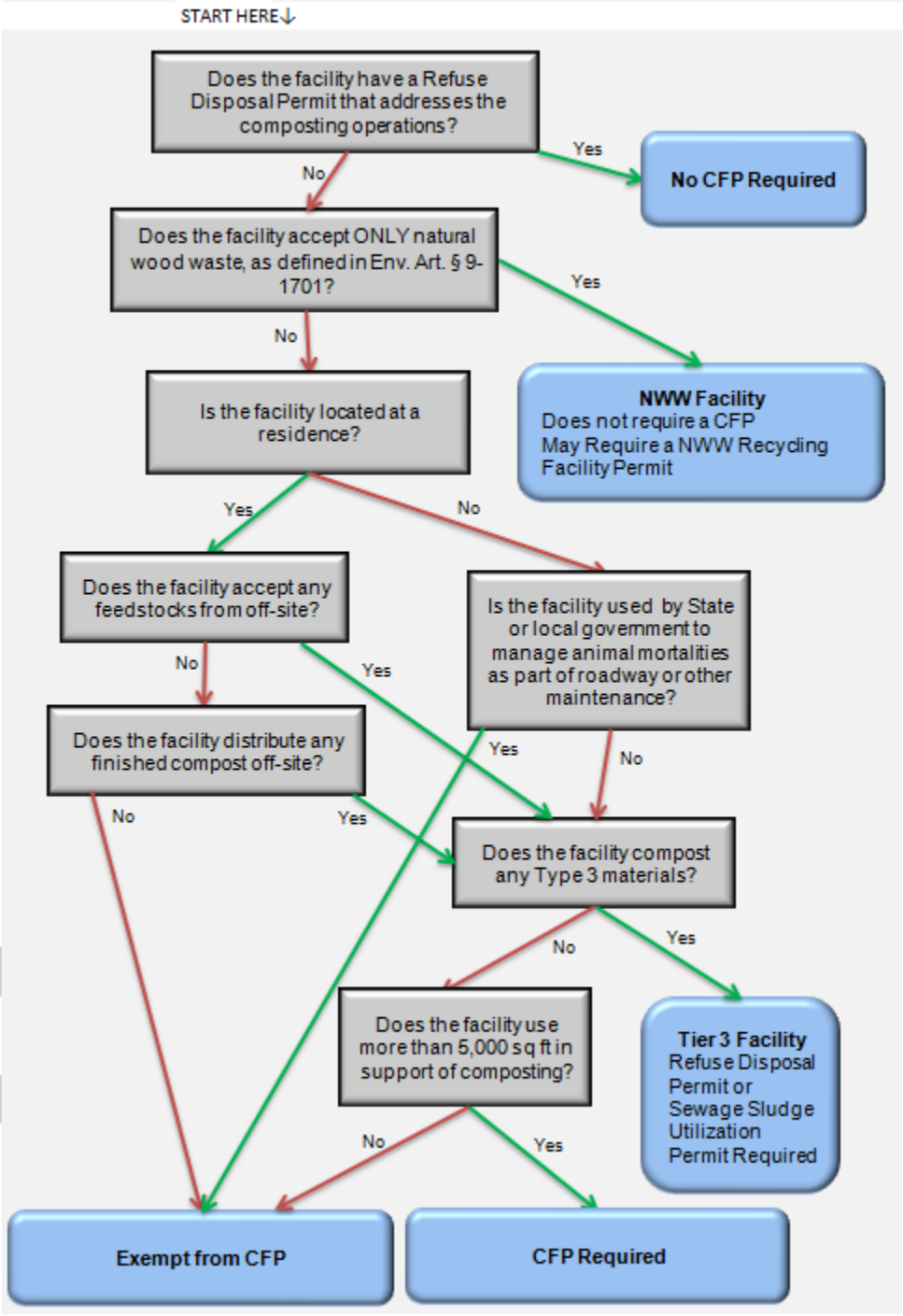
Each composting facility that distributes compost must operate under the supervision of an operator certified by MDA. Certification requires passage of a written test to demonstrate scientific and practical knowledge of composting. Operator certification lasts for 3 years, after which it must be renewed. Renewal may be accomplished either by retaking the written exam or by demonstrating participation in an MDA- approved composting training course.

For additional information, see MDA's State Chemist page

Appendix A – CF Permit Flow Chart for On-Farm Facilities



Appendix B – CF Permit Flow Chart for Non-Farms



Appendix C – Table of Major Design Requirements for Composting Facilities

Tier	Pad Requirements[1, 3]	Water Collection Requirements[1]
Exempt from CF Permit	None (but must avoid prohibited acts in COMAR 26.04.11.04)	None (but must avoid prohibited acts in COMAR 26.04.11.04)
NWW Composting	Subject to NWW regulations at COMAR 26.04.09 and conditions of the NWW Recycling Facility Permit.	Subject to NWW regulations at COMAR 26.04.09 and conditions of the NWW Recycling Facility Permit.
Tier 1	All-weather pad Slope 1-6% (except indoor facilities) Distance from water table 2 - 4 ft, depending on location within coastal plain province and other factors.	Stormwater: Manage in accordance with NPDES stormwater discharge permit (if required) and local stormwater and sediment and erosion control requirements. Contact water: Minimize surface runoff by implementing best management practices in accordance with NPDES permit (if required).
Tier 2 – Small	All-weather pad Slope 1-6% (except indoor facilities) Distance from water table 2 - 4 ft, depending on location within coastal plain province and other factors. 6-inch carbon-rich substrate beneath active piles Active piles must be covered with one of the following: • 6 inches compost • 6 inches high-carbon material such as wood chips • Synthetic cover • Roof	Stormwater: Manage in accordance with NPDES permit (if required) and local stormwater and sediment and erosion control requirements. Contact water: Minimize surface runoff by following pad requirements and implementing best management practices in accordance with NPDES permit (if required).
Tier 2 – Large (Uncovered)[2]	Curing and compost storage areas: All-weather pad Slope 1 - 6% Feedstock receipt, feedstock storage, and active composting areas: low permeability pad (concrete, cement, compacted clay) Permeability ≤ 10 -5 cm/sec if on the surface Permeability ≤ 10 -6 cm/sec if buried Sloped 1-6% All surfaces: Distance from water table 2 - 4 ft, depending on location within coastal plain province and other factors.	Stormwater: Manage in accordance with NPDES permit (if required) and local stormwater and sediment and erosion control requirements. Contact water: Feedstock receipt, feedstock storage and active composting areas must direct contact water to a collection basin, tank, or other containment system prior to reuse, transport off site to a permitted facility, or discharge on-site pursuant to a discharge permit. Containment system: The containment system used to collect contact water must: • Be sized to handle at least a 24-hour, 25-year storm event; • Have a synthetic or compacted clay liner • Have liner permeability ≤ 10-7 cm/sec; and

		• Be at least 1 ft thick if made of compacted clay
Tier 2 – Large (Covered) [2]	Curing and compost storage areas: All-weather pad Slope 1 - 6% Feedstock receipt, feedstock storage, and active composting areas: low permeability pad (concrete, cement, compacted clay) Permeability ≤ 10 -5 cm/sec if on the surface Permeability ≤ 10 -6 cm/sec if buried Sloped 1-6% Within active composting areas, the low-permeability pad is required only for areas directly under covered piles; the "aisles" may have an all-weather pad. All surfaces: Distance from water table 2 - 4 ft, depending on location within coastal plain province and other factors.	Stormwater: The following are **not** considered contact water and must be treated as stormwater (managed in accordance with NPDES permit if required, state and local stormwater and sediment and erosion control requirements) • Runoff that contacts only covered piles and empty aisles • Runoff from covered feedstock receipt or feedstock storage areas that contacts only the roof and/or empty aisles Contact water: The following **are** considered contact water and must be collected and contained prior to reuse, transport off site, or discharge on-site pursuant to a discharge permit: • Liquid that drains from the bottom of covered piles • Runoff from any uncovered feedstock receipt or feedstock storage Containment system: The containment system used to collect contact water must • Be sized to handle all contact water generated at the facility; • Have a synthetic or compacted clay liner (for ponds) • Have liner permeability ≤ 10-7 cm/sec; and • Be at least 1 ft thick if made of compacted clay
Tier 3	Subject to processing facility regulations at COMAR 26.04.07.23 and conditions of the Refuse Disposal Permit **or** Subject to sewage sludge regulations at COMAR 26.04.06 and conditions of the Sewage Sludge Utilization Permit.	Subject to processing facility regulations at COMAR 26.04.07.23 and conditions of the Refuse Disposal Permit **or** Subject to sewage sludge regulations at COMAR 26.04.06 and conditions of the Sewage Sludge Utilization Permit.

[1] An applicant for an individual Composting Facility Permit may apply for a variance from one or more of these requirements for proposed facility designs that would be equally protective of the environment.

[2] "Covered" means that the feedstock and active piles are covered with a synthetic cover or tarp or the piles are under a roof, as long as the roof has a means of preventing run-on from contacting the materials (such as walls, berms, etc.)

[3] Except where otherwise specified, the pad requirements apply to the feedstock receipt, feedstock storage, active composting, curing, and compost storage areas.